

## **RF SWITCH USING CONDUCTIVE FLUID**

### **ABSTRACT**

An RF switch (100) which includes a waveguide structure (102) having at least a first (104) and second port (106). The RF switch (100) also includes a dielectric structure defining at least a first cavity (136) disposed at a juncture between the first and second ports. The dielectric structure can define a plurality of elongated fluid cavities (136) at the juncture extending between opposing walls (116, 118) of the waveguide structure (102). The RF switch (100) also can include a fluid control system (150) that moves a conductive fluid (138) into the first cavity (136) in a first operational state and at least partially purges the conductive fluid (136) from the first cavity (138) in a second operational state. A conductive path can be provided between the conductive fluid and at least one wall (116, 118) of the waveguide structure (102).